

CLAIMS

What is claimed is:

- 5           1.       A device for the deionization of incoming water comprising: (a) a tank; (b) a generally hollow distributor tube in the tank for ingress into and downward movement of unpurified water through the tank; (c) an opening adjacent the bottom of the generally hollow distributor tube and near the bottom of the tank for distributing the unpurified water out of the generally hollow distributor tube; and (d) a mixed bed of purifying resin within the tank, and  
10       surrounding the generally hollow distributor tube, through which the unpurified water travels upwardly, and is deionized to a high purity water by the mixed bed of purifying resin, as it moves upwardly through the mixed bed of purifying resin, after egress from the opening.
2.       The device of Claim 1, wherein the generally hollow distributor tube is  
15       positioned substantially in the axial center of the tank.
3.       The device of Claim 1, wherein the opening adjacent the bottom of the generally hollow distributor tube is a rectangular slot.
- 20       4.       The device of Claim 1 further comprising: (a) an outlet for egress of deionized water from the tank; (b) a distributor; and (c) a filter, wherein the deionized water passes through the distributor and the filter before leaving the tank through the outlet.
5.       The device of Claim 4, wherein the filter is made of reticulated foam.  
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6.       The device of Claim 4, wherein the filter has a substantially cylindrical outer wall spaced radially outward from a substantially cylindrical inner wall.
7.       The device of Claim 4, wherein the filter is annularly disposed about the  
30       distributor.

8. A device for the deionization of incoming water comprising: (a) a tank; (b) an outlet for egress of deionized water; (c) a distributor; and (d) a filter, wherein the deionized water passes through the distributor and the filter before leaving the tank through the outlet.

5 9. The device of Claim 8, wherein the filter is made of reticulated foam.

10. The device of Claim 8, wherein the filter has a substantially cylindrical outer wall spaced radially outward from a substantially cylindrical inner wall.

10 11. The device of Claim 8, wherein the filter is annularly disposed about the distributor.

12. The device of Claim 8 further comprising a mixed bed of purifying resin within the tank.

15 13. The device of Claim 12, wherein the unpurified water is deionized to a high purity water by traveling upwardly through the mixed bed of purifying resin.

20 14. The device of Claim 8 further comprising a generally hollow distributor tube in the tank for ingress into and downward movement of unpurified water through the tank, wherein the generally hollow distributor tube is positioned substantially in the axial center of the tank.

25 15. The device of Claim 14 further comprising an opening adjacent the bottom of the generally hollow distributor tube and near the bottom of the tank for distributing the unpurified water out of the generally hollow distributor tube.

16. The device of Claim 15, wherein the opening adjacent the bottom of the generally hollow distributor tube is a rectangular slot.